Oct. 12, 1948. C. P. KEPHART ET AL 2,451,290

ELECTRIC SOLDERING TOOL

Filed July 27, 1945

Fig. 1.

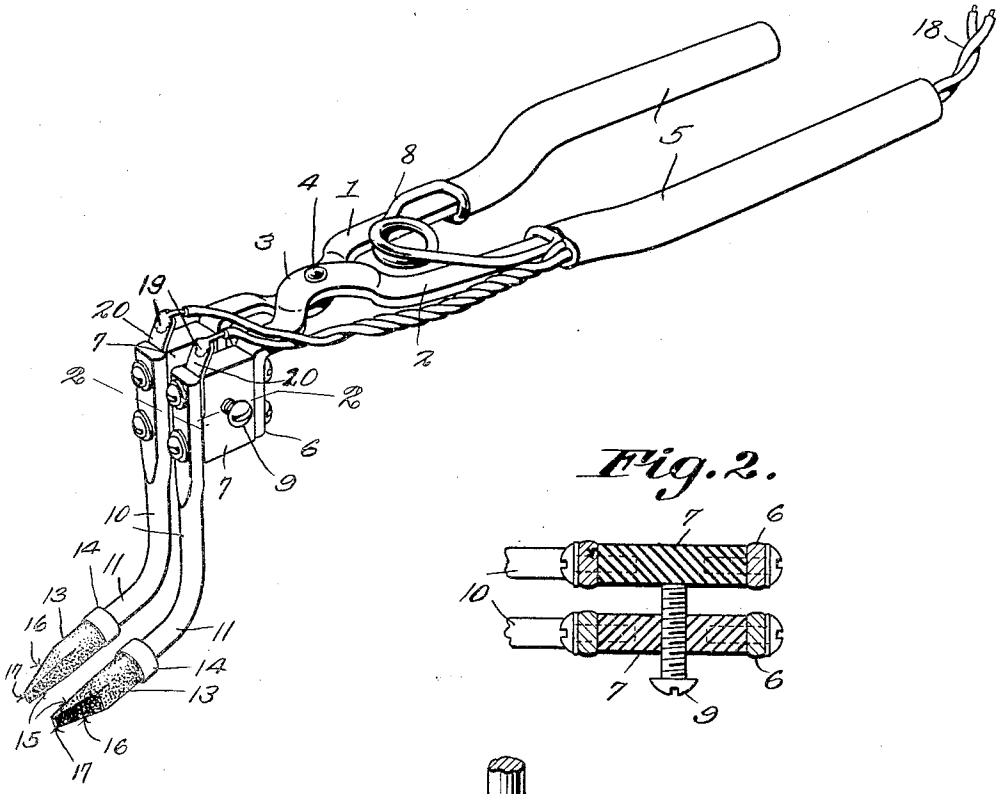
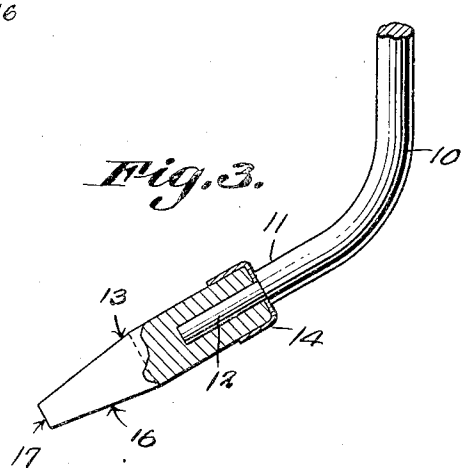


Fig. 2.

Fig. 3.



C. P. Kephart

W. E. Jerichow

INVENTORS.

BY Cushman & Co.

ATTORNEYS.

Patented Oct. 12, 1948

2,451,290

UNITED STATES PATENT OFFICE

2,451,290

ELECTRIC SOLDERING TOOL

C. Paul Kephart, Jersey City, and Walter Erich Jerichow, Far Hills, N. J.

Application July 27, 1945, Serial No. 607,280

3 Claims. (Cl. 219—26)

1

This invention relates to electric soldering tools of the resistance type, one of the objects being to provide a tool of this character which is simple in construction, readily adjustable, and, because of its peculiar configuration, is especially useful in assembly and repair work on radio transmitting and receiving sets, telephone installations and repairs, and repairs to the electrical systems of automobiles and aircraft.

A still further object is to provide a tool which can be utilized to advantage when making plumbing installations and repairs.

A still further object is to provide a soldering tool, the points of which are arranged in a pair, said points being movable at will toward or from each other and being located where they are easily seen while being applied to the work.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawing, the preferred form of the invention has been shown.

In said drawing:

Figure 1 is a perspective view of the tool.

Figure 2 is a section on line 2—2, Figure 1, said section being on an enlarged scale.

Figure 3 is a view partly in elevation and partly in section showing one of the tips and its connection.

Referring to the drawings by characters of reference, 1 and 2 designate opposed levers having offset intermediate portions 3 which are extended toward each other and overlap, these portions being connected by pivot pin or rivet 4. Handles 5 are mounted on the levers at one end while the other ends of the levers have downturned tongues 6 fastened to spacing blocks 7 formed of suitable insulating material. A spring 8 is interposed between and engages the levers 1 and 2 at points close to the handles 5 and serves normally to hold the blocks 7 pressed toward each other, this movement of the blocks being limited by a screw 9 which extends through one of the blocks 7, as shown in Figure 2 and contacts the opposite block.

Arms 10 are secured fixedly to the respective blocks and are extended along substantially parallel lines substantially at right angles to the levers 1 and 2. These arms, preferably are

2

formed of aluminum, have free end portions extended forwardly as at 11 and are provided with pins 12 on which are mounted carbon tips 13. The tips can be seated at their bases in cups 14 bearing against the end portions 11 of arms 10.

As shown particularly in Figure 1, the carbon tips 13 have their inner sides preferably straight and flat, as indicated at 15 while the opposite or outer faces of these tips are beveled as at 16 so that the tips thus are brought to broad points 17.

Wires 18 which can lead from a step-down transformer (not shown) can be extended through one of the handles and are insulated therefrom and from the levers. These wires are electrically joined, at 19, to ears 20 clamped between arms 10 and the blocks 7 so that the two arms 10 thus are included in opposite sides of a circuit.

The tips 13 are adapted to be moved toward each other when the handles 5 are permitted to move apart under the action of spring 8. Normally, however, when the two handles are grasped by the user, the tips are held apart so that the circuit is definitely broken between the tips. When these tips are applied to the work, the resistance set up will generate sufficient heat to soften the solder located at or adjacent to the points of contact.

It will be noted that the movement of the tips toward each other can be adjustably limited by the screw 9.

What is claimed is:

1. An electric soldering tool including levers pivotally connected between their ends, handles at one end of each lever, insulating blocks joined to the other ends of the levers, yielding means for holding the blocks normally pressed toward each other, arms of conducting material secured at one end to the blocks and extended therefrom perpendicularly to the levers, said arms being substantially parallel, the other ends of the arms being respectively formed as fingers, and extended from the arms at an oblique angle thereto, the tips carried by the respective fingers, and means for electrically connecting the arms to the respective sides of an electric circuit.

2. An electric soldering tool including levers pivotally connected intermediate their ends, the portions of the levers extending from the point of pivotal connection to the front ends thereof being substantially parallel and relatively closely spaced apart, insulating blocks secured to the front ends of the levers, means yieldably holding said blocks normally pressed toward each

other, a screw threadable through one of said blocks against one face of the other block for limiting the movement of said blocks toward each other, arms of conducting material secured at one end to the blocks and downwardly extended therefrom in perpendicular relation to the levers, said arms being substantially parallel and closely spaced apart, the other ends of the arms being extended forwardly and at an oblique angle relative to the length of the arms, tips carried by the latter ends of the arms, and means for electrically connecting the arms to the respective sides of an electric circuit.

3. An electric soldering tool including levers pivotally connected intermediate their ends, the portions of the levers extending from the point of pivotal connection to the front ends thereof being substantially parallel and relatively closely spaced apart, insulating blocks secured to the front ends of the levers, means yieldably holding said blocks normally pressed toward each other, means carried by one of said blocks and cooperating with the other block for adjustably limiting the movement of said blocks toward each other, arms of conducting material secured at

one end to the blocks and downwardly extended therefrom in perpendicular relation to the levers, said arms being substantially parallel and closely spaced apart, the other ends of the arms being extended forwardly and at an oblique angle relative to the length of the arms, tips carried by the latter ends of the arms, and means for electrically connecting the arms to the respective sides of an electric circuit.

C. PAUL KEPHART.
WALTER ERICH JERICHOW.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,142,306	Clemens	June 8, 1915
1,869,448	Woodring	Aug. 2, 1932
2,183,908	Gladitz	Dec. 19, 1939

FOREIGN PATENTS

Number	Country	Date
421,019	Great Britain	Dec. 12, 1934